

## CLAIMS

1. A time-series data processing device, comprising:

image-pick up means for image-picking up a specific object;  
5 data processing means for generating a data list indicating, in time series, a temporal transition of a position and a state of said object image-picked up by said image-picking means, with respect to a time;

animating means for animating said transition of said position and said state of said object in accordance with said data list; and

10 display means for displaying at least one of said data list generated by said data processing means and said image animated by said animating means.

2. A time-series data processing device according to claim 1, wherein  
15 said data processing means is configured to display synchronously on said display means each corresponding image by linking an image of said object, which is image-picked up by said image-pick up means, if necessary, in accordance with said data list generated, when said display means display said image of said object animated by animating means.

20 3. A time-series data processing device according to claim 2, wherein said data processing means is configured to perform at least one kind of data analysis, by linking an image animated by said animating means, in accordance with said data list generated.

25 4. A time-series data processing device according to claim 1, wherein said specific object includes a tool that is used for players in a sports game and for a determination of a winner or a loser of said sports game.

30 5. A time-series data processing device according to claim 4, wherein

said sports game is a soccer, and said tool is a soccer ball.

6. A time-series data processing device, comprising:

5 data processing means for generating an image data by image-picking up a sports game, for processing said image data generated in accordance with a predetermined format, and for storing said data processed in said predetermined format;

interface means connected to said data processing means, and having an instruction entering means capable of entering a plurality of instructions, for inputting said data processed in said predetermined format that is stored in said data processing means and for converting said data inputted into a predetermined form, and for outputting said data converted, in accordance with said instruction entered by said instruction entering mean; and

15 image displaying means connected to said interface means for inputting said data outputted from said interface means and for displaying said data inputted on a screen.

7. A time-series data processing device according to claim 6, wherein said interface means is configured to enable said image displaying means to  
20 display a play list or a graph that is indicative of a desired analytical result in response to a kind of said instruction.

8. A time-series data processing device according to claim 6, wherein said instruction entering means comprise:

25 a main instruction entering level for performing a plurality of different kinds of analyses; and

a common instruction entering level to be utilized commonly for said plurality of different kinds of analyses.

30 9. A time-series data processing device according to claim 8, wherein

said common instruction entering level is configured to enter at least one or more related item(s) with respect to a sports game subject to an analysis.

10. A time-series data processing device according to claim 8, wherein  
5 said main instruction entering level is configured to select an analysis of data or an analysis of formation regarding to a sports game subject to an analysis, as one of said plurality of different kinds of analyses.

11. A time-series data processing device according to claim 9, wherein  
10 said related item includes at least one of a player, a team, a weather, a stadium of a game, a date of a game, a starting time of a game, and a number of spectators of a game.

12. A time-series data processing device according to claim 11, wherein  
15 said interface means include functions of displaying all plays of an opponent teams at said sports game as a list in accordance with said play list, and of retrieving a desirable play seen at said sports game by designating an optional item of said play list.

13. A time-series data processing device according to claim 12, wherein  
20 said interface means further include a function of linking one analysis to other analysis in accordance with said play list.

14. A time-series data processing device according to claim 7, wherein  
25 said interface means is capable of enabling said display means to display simultaneously an animation based on said data converted into said predetermined form in accordance with said play list, and an image of a sports game based on said image data corresponding to said animation, and of editing a video of said sports game while analyzing data of said sports  
30 game.

15. A method of processing data in time-series, comprising the steps of:  
image-picking up a specific object;

5 generating a data list indicating, in time series, a temporal transition  
of a position and a state of said object image-picked up, with respect to a  
time;

animating said transition of said position and said state of said object  
in accordance with said data list; and

10 displaying at least one of said data list generated and said image  
animated.

16. A method of processing data in time-series according to claim 15,  
further comprises the step of displaying synchronously each corresponding  
image by linking an image of said object, which is image-picked up, if  
15 necessary, in accordance with said data list generated, when displaying said  
image of said object animated.

17. A method of processing data in time-series according to claim 16,  
further comprises the step of performing at least one kind of data analysis,  
20 by linking an image animated, in accordance with said data list generated.

18. A method of processing data in time series according to claim 15,  
wherein said specific object includes a tool that is used for players in a sports  
game and for a determination of a winner or a loser of said sports game.

25 19. A method of processing data in time-series according to claim 15,  
wherein said sports game is a soccer, and said tool is a soccer ball.

30 20. A method of processing data in time-series, comprising the steps of:  
generating an image data by image-picking up a sports game;

processing said image data generated in accordance with a predetermined format;

storing said data processed in said predetermined format;

entering a plurality of instructions;

5 converting said data processed in said predetermined format into a predetermined form in accordance with said instruction entered; and

displaying said data converted into said predetermined form.

21. A method of processing data in time-series according to claim 20,  
10 further comprises the step of displaying a play list or a graph that is indicative of a desired analytical result in response to a kind of said instruction.

22. A method of processing data in time-series according to claim 21,  
15 wherein said step of converting said data processed in said predetermined format into a predetermined form in accordance with said instruction comprises a step of entering at least one or more related item(s) with respect to a sports game subject to an analysis, which is utilized commonly in said plurality of different kinds of analyses by a common instruction entering.

20 23. A method of processing data in time-series according to claim 22, wherein said related item includes at least one of a player, a team, a weather, a stadium of a game, a date of a game, a starting time of a game, and a number of spectators of a game.

25 24. A method of processing data in time-series according to claim 22, wherein said step of converting said data processed in said predetermined format into a predetermined form in accordance with said instruction comprises a step of selecting an analysis of data or an analysis of formation  
30 regarding to a sports game subject to an analysis by a main instruction

entering.

25. A method of processing data in time-series according to claim 21, further comprises the steps of:

5 displaying all plays of an opponent teams at said sports game as a list in accordance with said play list; and

retrieving a desirable play seen at said sports game by designating an optional item of said play list.

10 26. A method of processing data in time-series according to claim 25, further comprises the step of linking one analysis to other analysis in accordance with said play list.

15 27. A method of processing data in time-series according to claim 26, further comprises the steps of:

displaying simultaneously an animation based on said data converted into said predetermined form in accordance with said play list, and an image of a sports game based on said image data corresponding to said animation; and

20 editing a video of said sports game while analyzing data of said sports game.

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